(FILE 'HOME' ENTERED AT 10:25:17 ON 12 AUG 2003)

FILE 'REGISTRY' ENTERED AT 10:25:39 ON 12 AUG 2003

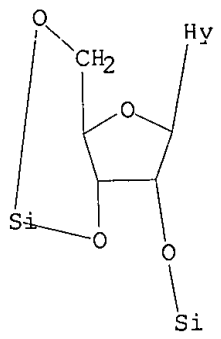
L1 STRUCTURE UPLOADED
L2 0 S L1 SSS SAM
L3 17 S L1 SSS FULL
L4 STRUCTURE UPLOADED
L5 7 S L4 SSS SAM
L6 238 S L4 SSS FULL

FILE 'CAPLUS, MEDLINE, USPATFULL' ENTERED AT 10:27:19 ON 12 AUG 2003

L7 8 S L3 AND L6

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1 sss sam
SAMPLE SEARCH INITIATED 10:26:08 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 13 TO ITERATE

0 ANSWERS

100.0% PROCESSED 13 ITERATIONS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:	ONLINE	**COMPLETE**
	BATCH	**COMPLETE**
PROJECTED ITERATIONS:	44 TO	476
PROJECTED ANSWERS:	0 TO	0

L2 0 SEA SSS SAM L1

=> s l1 sss full
FULL SEARCH INITIATED 10:26:14 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 295 TO ITERATE

17 ANSWERS

100.0% PROCESSED 295 ITERATIONS
SEARCH TIME: 00.00.01

L3 17 SEA SSS FUL L1

=>
Uploading 10043951-3.str

L4 STRUCTURE UPLOADED

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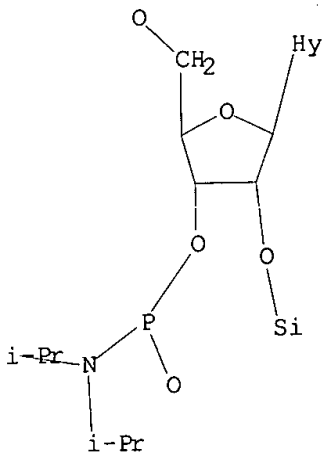
L4 HAS NO ANSWERS
L4 STR



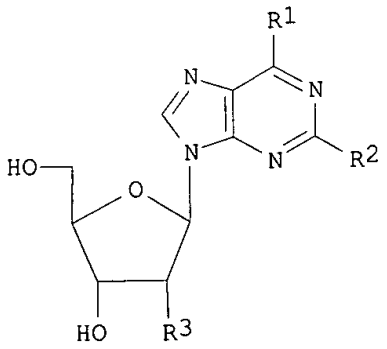
Structure attributes must be viewed using STN Express query preparation.

L7 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:794206 CAPLUS
DOCUMENT NUMBER: 137:295195
TITLE: Methods for synthesizing nucleosides, nucleoside derivatives and non-nucleoside phosphoramidites and succinates
INVENTOR(S): Beigelman, Leonid; Karpeisky, Alexander; Serebryany, Vladmir; Haeberli, Peter; Sweedler, David
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 59 pp., Cont.-in-part of U.S. Ser. No. 944,554.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002150936	A1	20021017	US 2002-43951	20020111
US 2002120129	A1	20020829	US 2001-944554	20010831

PRIORITY APPLN. INFO.: US 2000-230057P P 20000901
US 2001-286571P P 20010425
US 2001-944554 A2 20010831

OTHER SOURCE(S): CASREACT 137:295195
GI



I

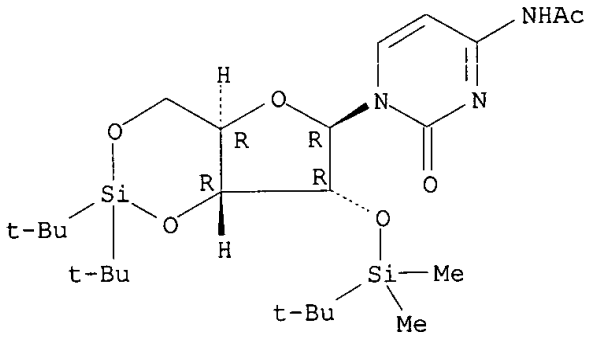
AB The present invention provides methods for the chem. synthesis of nucleosides I wherein R1 and R2 are independently hydrogen, substituted amine, aminoalkyl, fluoro or chloro; R3 is independently alkyl, alkoxyalkyl, alkylthioalkyl, cyanoalkyl, or arylalkyl optionally substituted with up to three groups that are independently halogen, alkoxy, nitro, or alkyl; and derivs. thereof, including 2'-amino, 2'-N-phthaloyl, 2'-O-Me, 2'-O-silyl, 2'-OH nucleosides, C-nucleosides, nucleoside phosphoramidites, C-nucleoside phosphoramidites, and non-nucleoside derivs. The invention provides a universal method for the synthesis of 2'-deoxy-2'-aminopurine and pyrimidine nucleosides and C-nucleosides that employs fewer synthetic steps, avoids the use of azides, and which concomitantly introduces N-phthaloyl protection of the 2'-amine. Thus, 5'-O-DMT-2'-deoxy-2'-N1-phthaloyl-N4-acetylcytidine 3'-O-(2-cyanoethyl-N,N-diisopropylphosphoramidite) was prepd.

IT **401812-96-2P**
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(507; methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

RN 401812-96-2 CAPLUS

CN Cytidine, N-acetyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

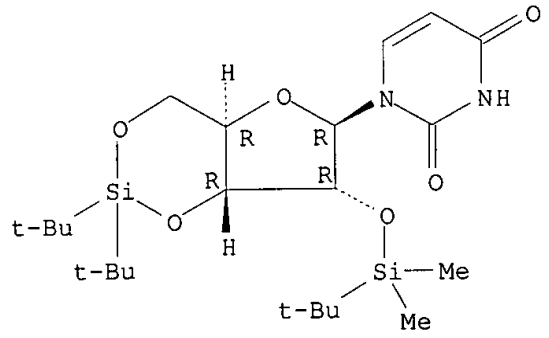
Absolute stereochemistry.



IT **212375-92-3P 212375-93-4P 401812-98-4P 401812-99-5P 401813-00-1P**
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

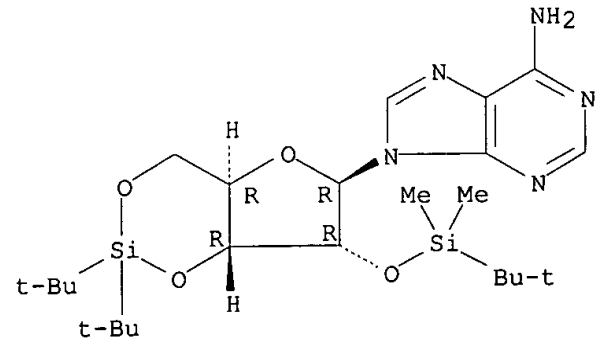
RN 212375-92-3 CAPLUS
CN Uridine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



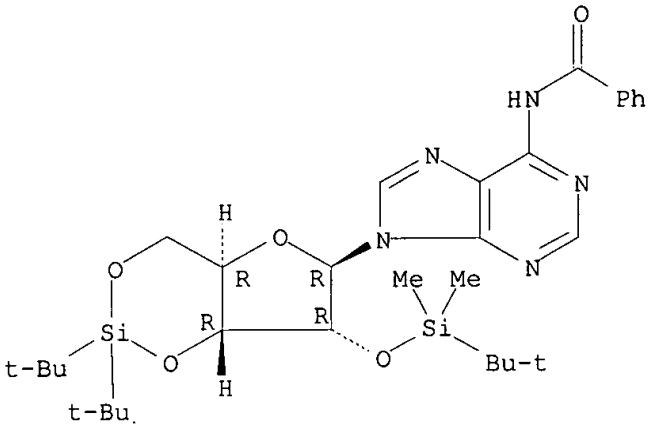
RN 212375-93-4 CAPLUS
CN Adenosine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



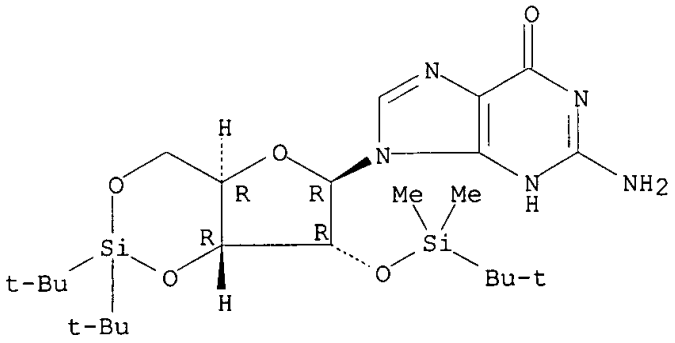
RN 401812-98-4 CAPLUS
CN Adenosine, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



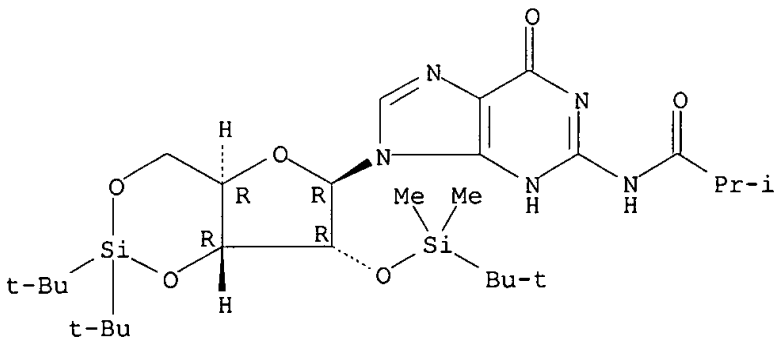
RN 401812-99-5 CAPLUS
CN Guanosine, 3',5'-O-[bis(1,1-methylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 401813-00-1 CAPLUS
CN Guanosine, 3',5'-O-[bis(1,1-methylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX NAME)

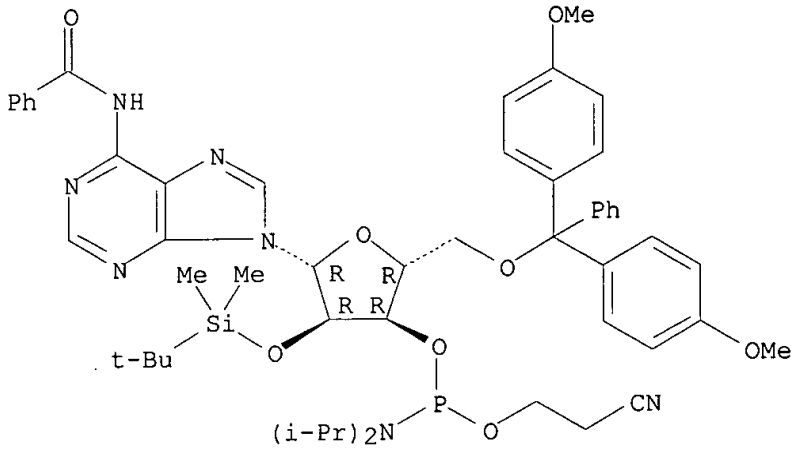
Absolute stereochemistry.



IT **104992-55-4P 118362-03-1P 121058-88-6P**
147201-04-5P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

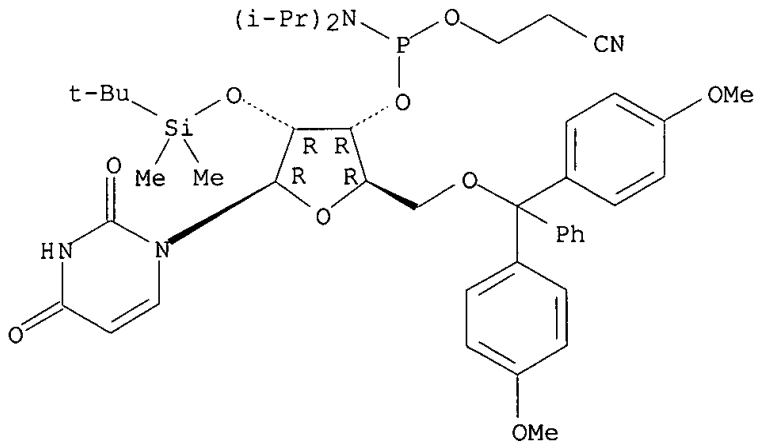
RN 104992-55-4 CAPLUS
CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



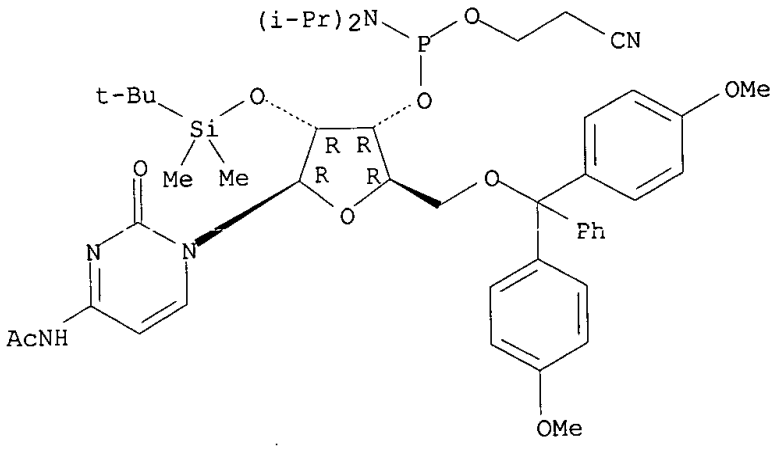
RN 118362-03-1 CAPLUS
CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



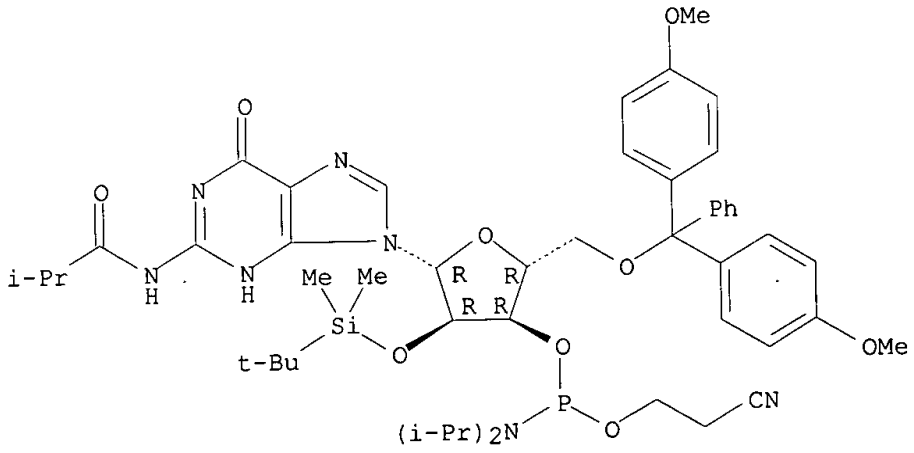
RN 121058-88-6 CAPLUS
CN Cytidine, N-acetyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 147201-04-5 CAPLUS
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L7 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:171919 CAPLUS
DOCUMENT NUMBER: 136:200423
TITLE: Methods for synthesizing nucleosides, nucleoside derivatives and non-nucleoside phosphoramidites and succinates
INVENTOR(S): Beigelman, Leonid; Karpeisky, Alexander; Serebryany, Vladimir; Haeberli, Peter; Sweedler, David
PATENT ASSIGNEE(S): Ribozyme Pharmaceuticals, Incorporated, USA
SOURCE: PCT Int. Appl., 118 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018405	A2	20020307	WO 2001-US27116	20010831
WO 2002018405	A3	20030103		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

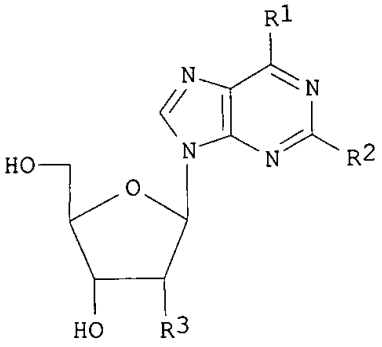
AU 2001086959	A5	20020313	AU 2001-86959	20010831
EP 1313752	A2	20030528	EP 2001-966449	20010831

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRIORITY APPLN. INFO.: US 2000-230057P P 20000901
US 2001-286571P P 20010425
WO 2001-US27116 W 20010831

OTHER SOURCE(S): CASREACT 136:200423; MARPAT 136:200423

GI



I

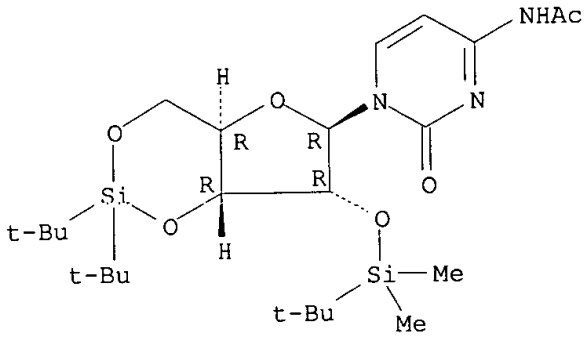
AB The present invention provides methods for the chem. synthesis of nucleosides I wherein R1 and R2 are independently hydrogen, substituted amine, aminoalkyl, fluoro or chloro; R3 is independently alkyl, alkoxyalkyl, alkylthioalkyl, cyanoalkyl, or arylalkyl optionally substituted with up to three groups that are independently halogen, alkoxy, nitro, or alkyl; and derivs. thereof, including 2'-amino, 2'-N-phthaloyl, 2'-O-Me, 2'-O-silyl, 2'-OH nucleosides, C-nucleosides, nucleoside phosphoramidites, C-nucleoside phosphoramidites, and non-nucleoside derivs. The invention provides a universal method for the synthesis of 2'-deoxy-2'-aminopurine and pyrimidine nucleosides and C-nucleosides that employs fewer synthetic steps, avoids the use of azides, and which concomitantly introduces N-phthaloyl protection of the 2'-amine. Thus, 5'-O-DMT-2'-deoxy-2'-N1-phthaloyl-N4-acetylcytidine 3'-O-(2-cyanoethyl-N,N-diisopropylphosphoramidite).

IT **401812-96-2P**
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(507; methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

RN 401812-96-2 CAPLUS

CN Cytidine, N-acetyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

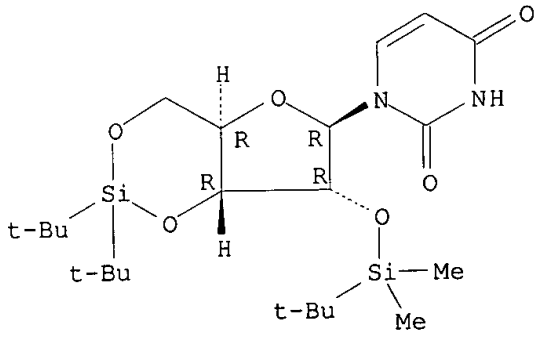
Absolute stereochemistry.



IT **212375-92-3P 212375-93-4P 401812-98-4P 401812-99-5P 401813-00-1P**
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

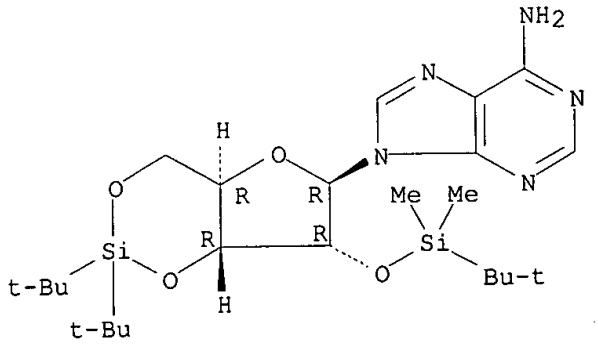
RN 212375-92-3 CAPLUS
CN Uridine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



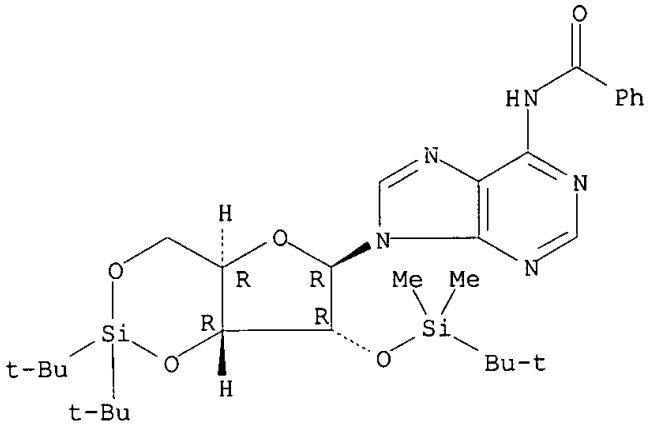
RN 212375-93-4 CAPLUS
CN Adenosine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



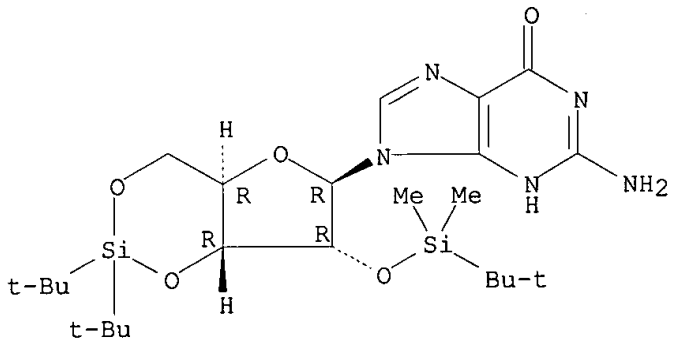
RN 401812-98-4 CAPLUS
CN Adenosine, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



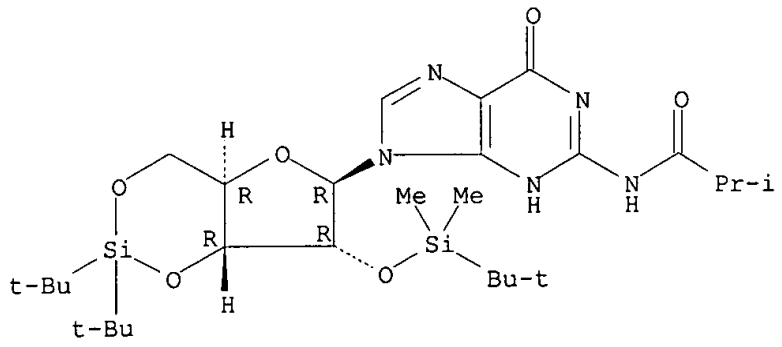
RN 401812-99-5 CAPLUS
CN Guanosine, 3',5'-O-[bis(1,1-methylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 401813-00-1 CAPLUS
CN Guanosine, 3',5'-O-[bis(1,1-methylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



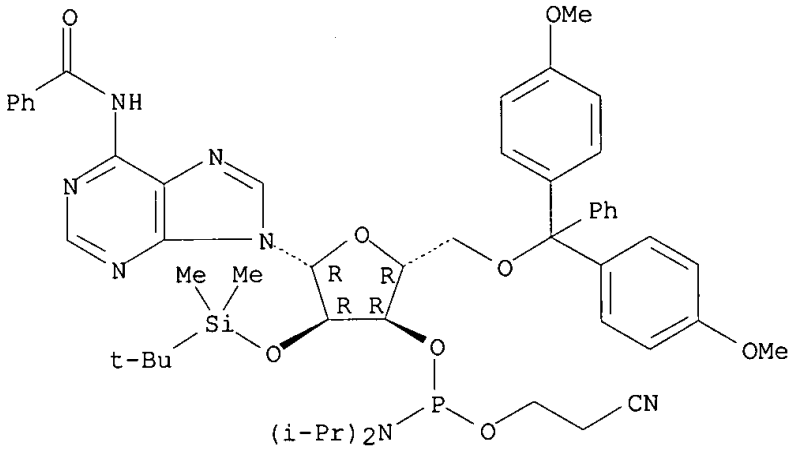
IT **104992-55-4P 118362-03-1P 121058-88-6P**
147201-04-5P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

RN 104992-55-4 CAPLUS

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

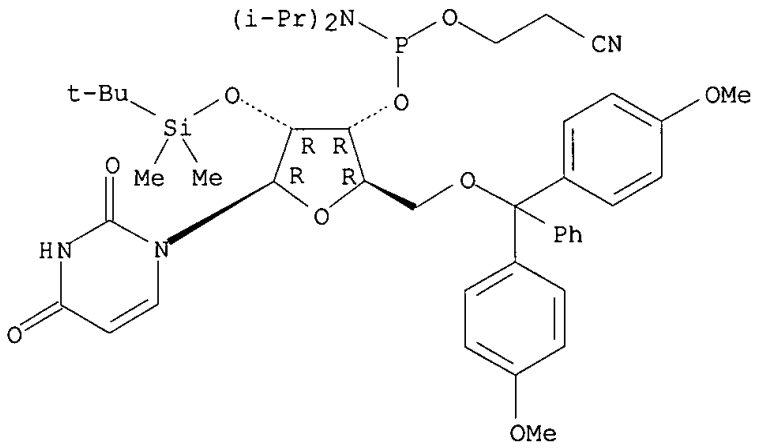
Absolute stereochemistry.



RN 118362-03-1 CAPLUS

CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

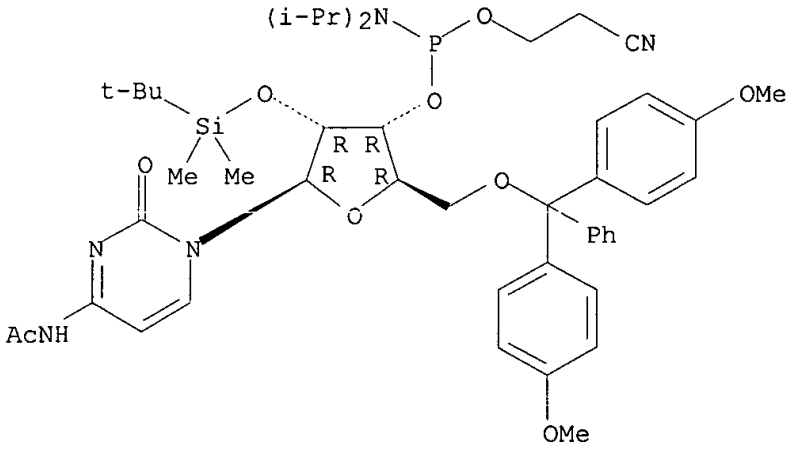
Absolute stereochemistry.



RN 121058-88-6 CAPLUS

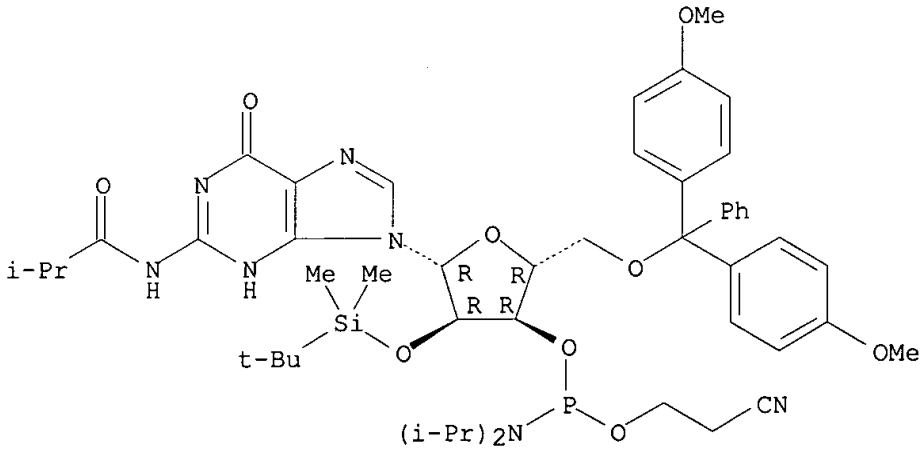
CN Cytidine, N-acetyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 147201-04-5 CAPLUS
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L7 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:675073 CAPLUS
DOCUMENT NUMBER: 136:37850
TITLE: Efficient synthesis of D-[1'-13C]-ribonucleosides for incorporation into oligo-RNA
AUTHOR(S): Saito, Y.; Nyilas, A.; Agrofoglio, L. A.
CORPORATE SOURCE: I.C.O.A. associe CNRS, Faculte des Sciences, Orleans, 45100, Fr.
SOURCE: Nucleosides, Nucleotides & Nucleic Acids (2001), 20(4-7), 937-940
CODEN: NNNAFY; ISSN: 1525-7770
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 136:37850

AB Syntheses of the monomer building blocks used for the solid-phase synthesis of specifically 1'-13C-labeled oligoribonucleotides from the D-[1-13C]ribose is presented. The procedure has been used for the selective formation of 2'-O-silylated ribonucleosides. Following 5'-O-dimethoxytritylation, the synthesis of D-[1'-13C] ribonucleoside

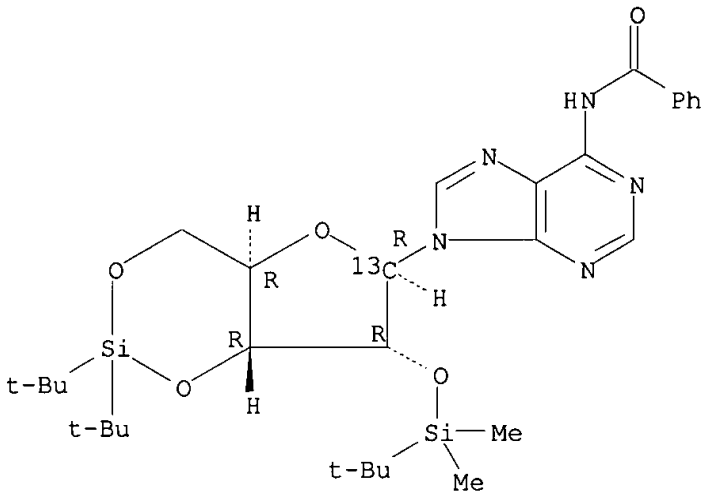
phosphoramidites has been achieved.

IT **335595-77-2P 335595-79-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of ribonucleosides for incorporation into oligo-RNA)

RN 335595-77-2 CAPLUS

CN Adenosine-1'-13C, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

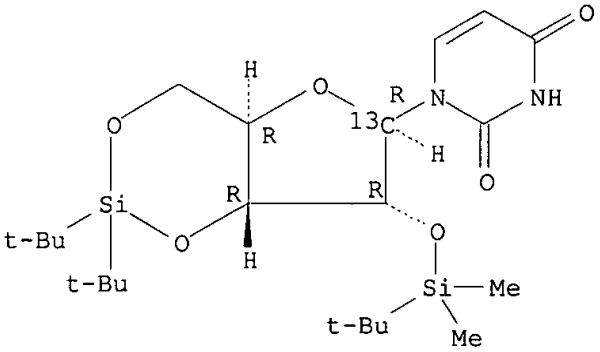
Absolute stereochemistry.



RN 335595-79-4 CAPLUS

CN Uridine-1'-13C, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

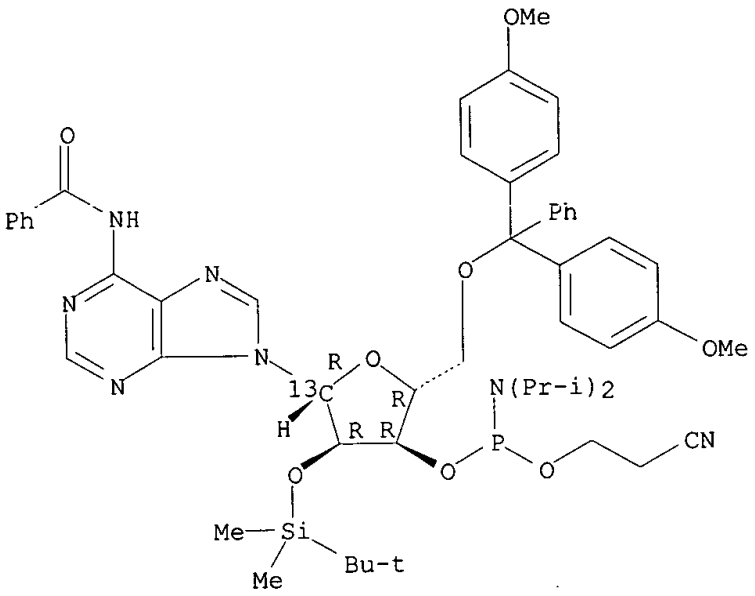


IT **335595-86-3P 380611-24-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of ribonucleosides for incorporation into oligo-RNA)

RN 335595-86-3 CAPLUS

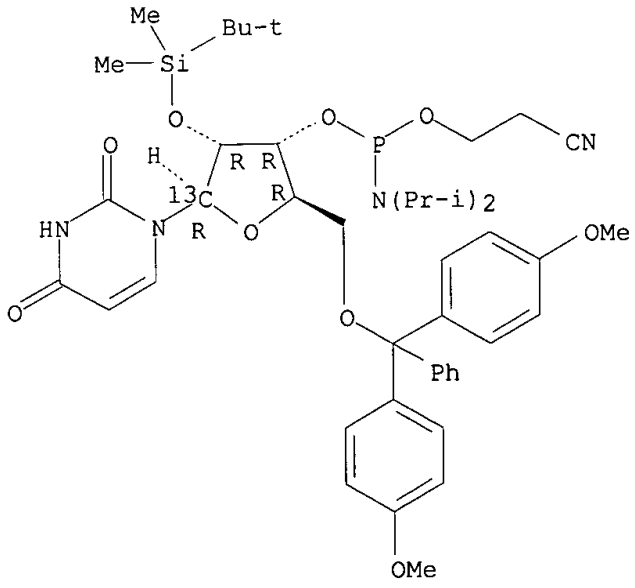
CN Adenosine-1'-13C, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 380611-24-5 CAPLUS
CN Uridine-1'-13C, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:154378 CAPLUS
DOCUMENT NUMBER: 134:326702
TITLE: Synthesis of isotopically labeled d-[1'-13C]ribonucleoside phosphoramidites
AUTHOR(S): Saito, Y.; Nyilas, A.; Agrofoglio, L. A.
CORPORATE SOURCE: Institut de Chimie Organique et Analytique, CNRS UMR 6005, Universite d'Orleans, Orleans, 45100, Fr.

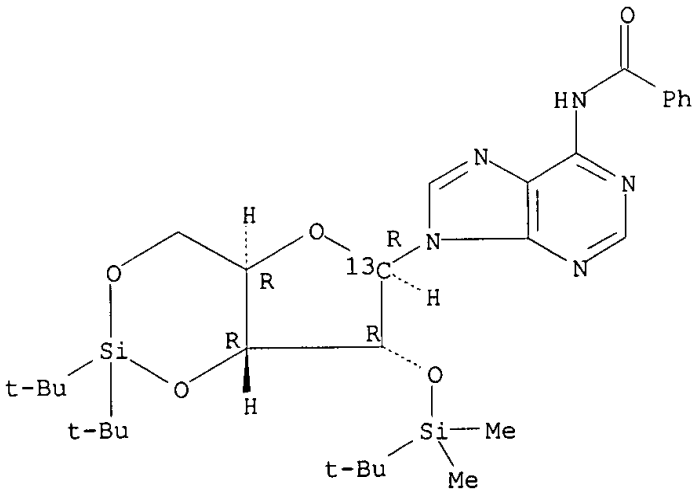
SOURCE: Carbohydrate Research (2001), 331(1), 83-90
CODEN: CRBRAT; ISSN: 0008-6215
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:326702

AB The prepn. of fully protected labeled diisopropylamino-.beta.-cyanoethyl-[1'-13C]ribonucleoside phosphoramidites with regioisomeric purity is described. We demonstrated in this paper that a regioselective 2'-O-silylation, through a 3',5'-O-di-tert-butylsilanediyl protection, has been applied for the synthesis of [1'-13C]ribonucleoside phosphoramidite units. This method allowed us to obtain only the desired 2'-O-silyl-3'-O-phosphoramidites avoiding the undesired 3'-O-silyl-2'-O-phosphoramidite nucleosides isolated by std. procedures. This is a suitable procedure to RNA precursors with respect to the isotope-contg. precursors.

IT **335595-77-2P 335595-78-3P 335595-79-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of isotopically labeled d-[1'-13C]ribonucleoside phosphoramidites via regioselective silylation as synthons for RNA)

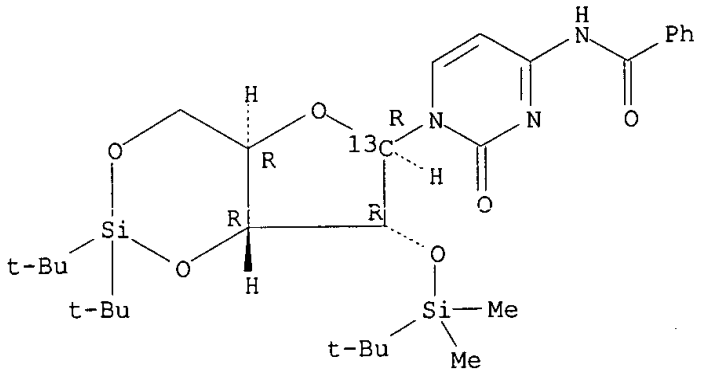
RN 335595-77-2 CAPLUS
CN Adenosine-1'-13C, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



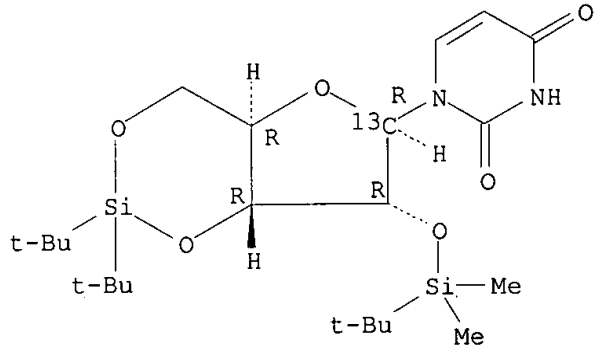
RN 335595-78-3 CAPLUS
CN Cytidine-1'-13C, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



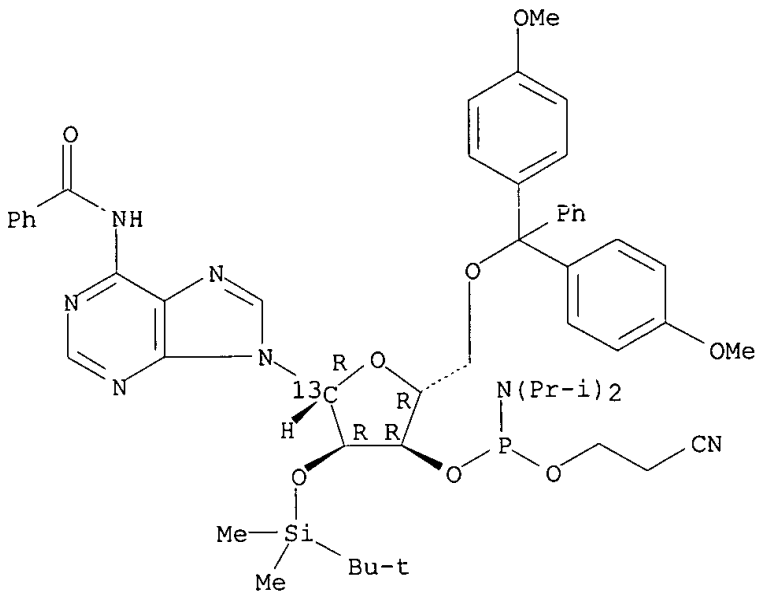
RN 335595-79-4 CAPLUS
CN Uridine-1'-13C, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



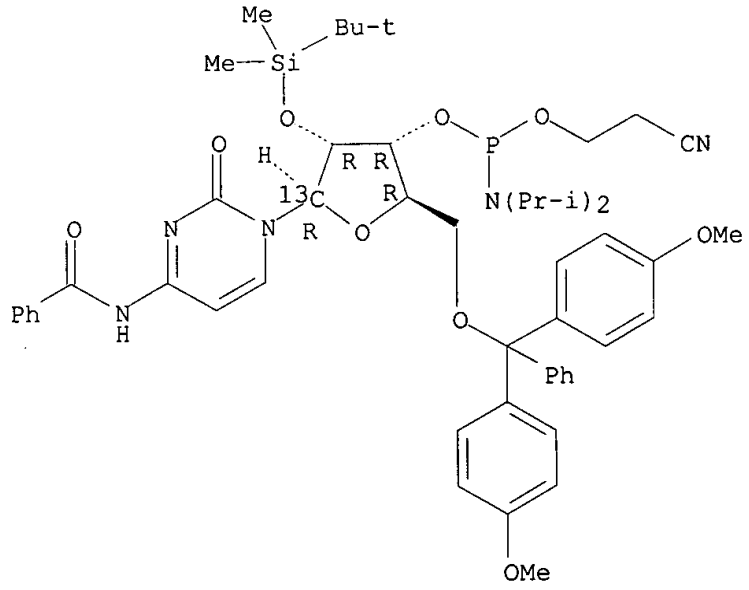
IT **335595-86-3P 335595-87-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of isotopically labeled d-[1'-13C]ribonucleoside phosphoramidites via regioselective silylation as synthons for RNA)
RN 335595-86-3 CAPLUS
CN Adenosine-1'-13C, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 335595-87-4 CAPLUS
CN Cytidine-1'-13C, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:17764 CAPLUS
DOCUMENT NUMBER: 130:182710
TITLE: 2'-C-Branched Ribonucleosides: Synthesis of the Phosphoramidite Derivatives of 2'-C-.beta.-Methylcytidine and Their Incorporation into Oligonucleotides
AUTHOR(S): Tang, Xiao-Qing; Liao, Xiangmin; Piccirilli, Joseph A.

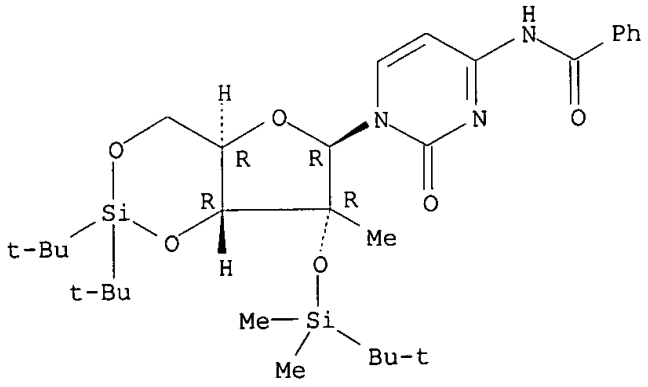
CORPORATE SOURCE: Howard Hughes Medical Institute Departments of Biochemistry Molecular Biology and Chemistry, University of Chicago, Chicago, IL, 60637, USA
SOURCE: Journal of Organic Chemistry (1999), 64(3), 747-754
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We describe a strategy for the incorporation of a 2'-C-branched ribonucleoside, 2'-C-.beta.-methylcytidine, into oligonucleotides via solid-phase synthesis using phosphoramidite derivs. 4-N-Benzoyl-2'-C-.beta.-methylcytidine was synthesized by coupling persilylated 4-N-benzoylcytosine with 1,2,3,5-tetra-O-benzoyl-2-C-.beta.-methyl-.alpha.-(and .beta.)-D-ribofuranose in the presence of SnCl4 in acetonitrile, followed by selective deprotection with NaOH in pyridine/methanol. The 3'- and 5'-hydroxyl groups were blocked as a cyclic di-tert-butylsilanediyl ether by treatment with di-tert-butyldichlorosilane/AgNO3 in DMF. The 2'-hydroxyl group was then protected as a tert-butyldimethylsilyl ether by treatment with tert-butylmagnesium chloride followed by addn. of tert-butyldimethylsilyl trifluoromethanesulfonate in THF. As an alternative to 2'-silyl protection, the corresponding 2'-O-tetrahydropyranyl ether was prepd. by treatment with 4,5-dihydro-2H-pyran in the presence of a catalytic amt. of 10-camphorsulfonic acid in methylene chloride. The di-tert-butylsilanediyl groups were removed by treatment with pyridinium poly(hydrogen fluoride). Protection of the 5'-hydroxyl group as a dimethoxytrityl ether and phosphitylation of the 3'-hydroxyl group by the std. procedure gave the phosphoramidite derivs. Both these derivs. could be used to incorporate 2'-C-.beta.-methylcytidine into oligonucleotides efficiently via std. solid-phase synthesis, but the tetrahydropyranyl group was more readily removed from oligonucleotides than the tert-butyldimethylsilyl group. Oligonucleotides contg. 2'-C-.beta.-methylcytidine undergo base-catalyzed degrdn. analogous to natural RNA.

IT **220503-66-2P 220503-70-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of the phosphoramidite derivs. of 2'-C-.beta.-methylcytidine and their incorporation into oligonucleotides)

RN 220503-66-2 CAPLUS
CN Cytidine, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-2'-C-methyl- (9CI) (CA INDEX NAME)

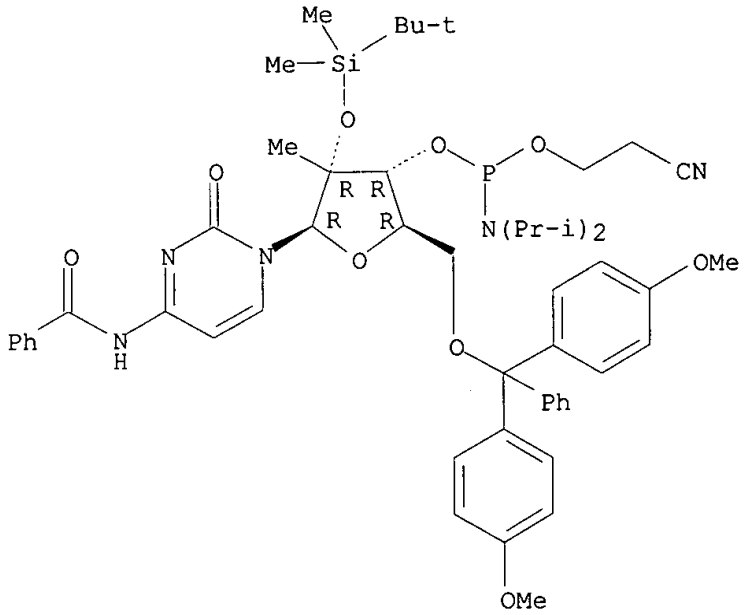
Absolute stereochemistry.



RN 220503-70-8 CAPLUS
CN Cytidine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-2'-C-methyl-, 3'-[2-cyanoethyl

bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 84 THERE ARE 84 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

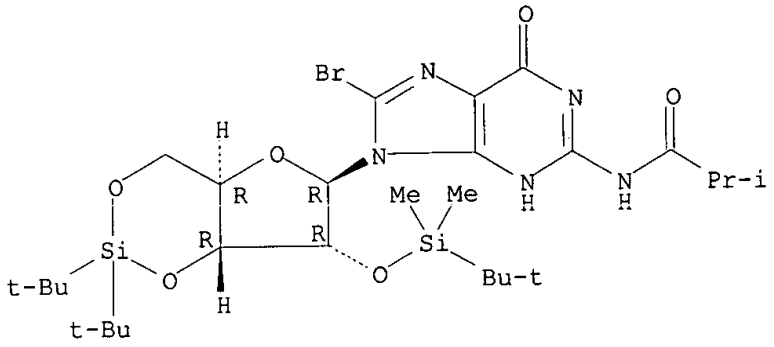
L7 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:407842 CAPLUS
DOCUMENT NUMBER: 127:109140
TITLE: Synthesis of guanosine analogs bearing pendant alkylthiol tethers
AUTHOR(S): Gundlach, C. William, IV; Ryder, Todd R.; Glick, Gary D.
CORPORATE SOURCE: Department of Chemistry, University of Michigan, Ann Arbor, MI, 48109-1055, USA
SOURCE: Tetrahedron Letters (1997), 38(23), 4039-4042
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Synthesis of three guanosine monomers substituted with alkylthiol chains at either carbon -8 or the 2'-hydroxyl is described. The ready accessibility of these monomers with facilitate the use of disulfide cross-links to study the folding and dynamics of RNA and will also provide loci for conjugation of reporter groups.

IT **192316-99-7P 192317-00-3P 192317-01-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of guanosine analogs bearing pendant alkylthiol tethers)

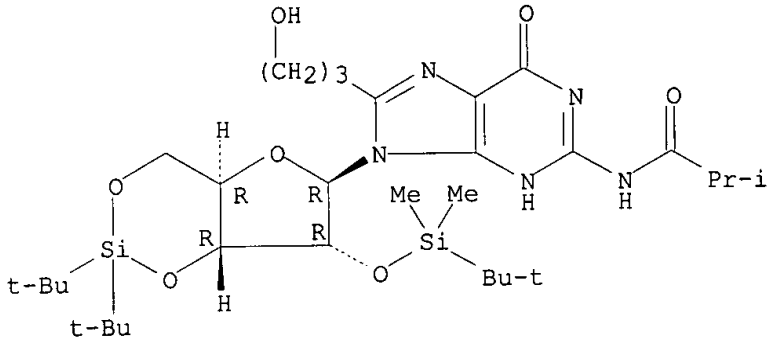
RN 192316-99-7 CAPLUS
CN Guanosine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-8-bromo-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



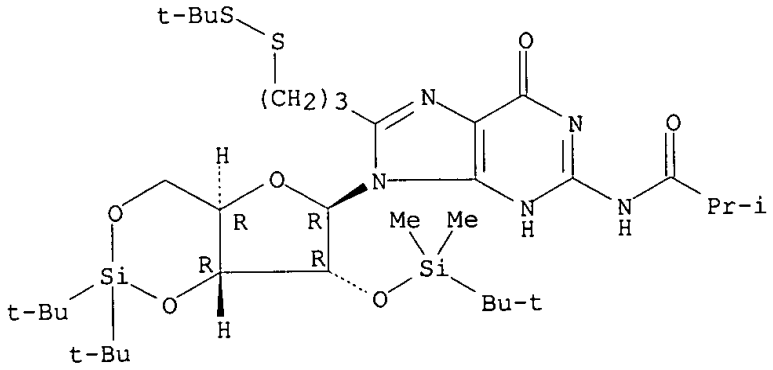
RN 192317-00-3 CAPLUS
CN Guanosine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-8-(3-hydroxypropyl)-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 192317-01-4 CAPLUS
CN Guanosine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-8-[3-[(1,1-dimethylethyl)dithio]propyl]-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX NAME)

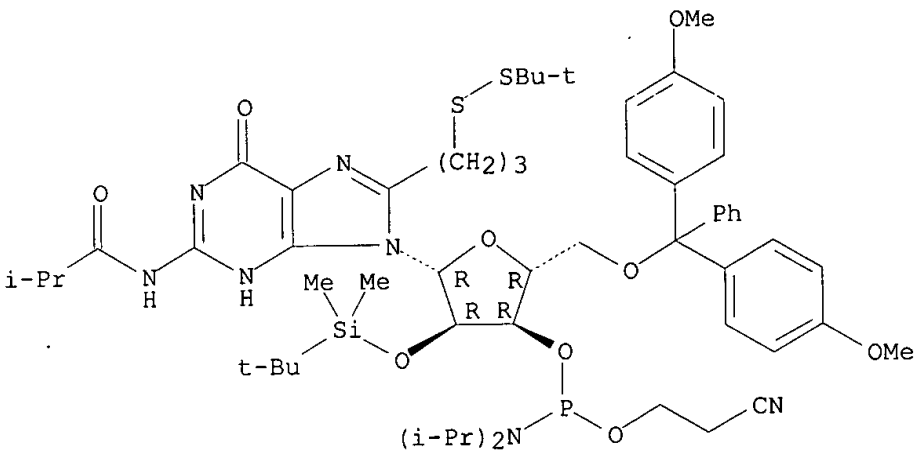
Absolute stereochemistry.



IT **192317-03-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of guanosine analogs bearing pendant alkylthiol tethers)
RN 192317-03-6 CAPLUS
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-8-[3-[(1,1-dimethylethyl)dithio]propyl]-N-(2-methyl-1-oxopropyl)-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite]

(9CI) (CA INDEX NAME)

Absolute stereochemistry.



L7 ANSWER 7 OF 8 USPATFULL on STN

ACCESSION NUMBER:	2002:272815 USPATFULL
TITLE:	Methods for synthesizing nucleosides, nucleoside derivatives and non-nucleoside derivatives
INVENTOR(S):	Beigelman, Leonid, Longmont, CO, UNITED STATES Karpeisky, Alexander, Lafayette, CO, UNITED STATES Serebryany, Vladmir, Boulder, CO, UNITED STATES Haeberli, Peter, Berthoud, CO, UNITED STATES Sweedler, David, Louisville, CO, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002150936	A1	20021017
APPLICATION INFO.:	US 2002-43951	A1	20020111 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2001-944554, filed on 31 Aug 2001, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-286571P	20010425 (60)
	US 2000-230057P	20000901 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE 3200, CHICAGO, IL, 60606
NUMBER OF CLAIMS:	45
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	15 Drawing Page(s)
LINE COUNT:	4139

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides methods for the chemical synthesis of nucleosides and derivatives thereof, including 2'-amino, 2'-N-phthaloyl, 2'-O-methyl, 2'-O-silyl, 2'-O-triisopropylsilyloxymethyl, 2'-OH nucleosides, C-nucleosides, nucleoside phosphoramidites, C-nucleoside phosphoramidites, and non-nucleoside derivatives.

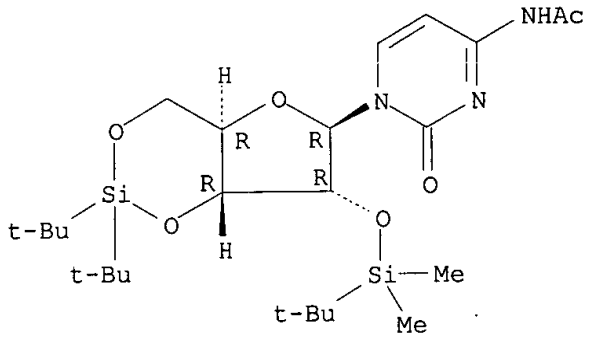
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT **401812-96-2P**
(507; methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

RN 401812-96-2 USPATFULL

CN Cytidine, N-acetyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

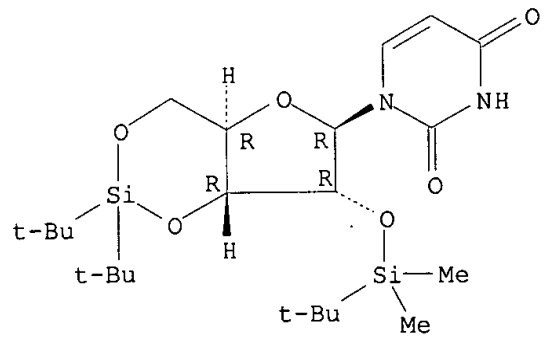


IT **212375-92-3P 212375-93-4P 401812-98-4P 401812-99-5P 401813-00-1P**
(methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

RN 212375-92-3 USPATFULL

CN Uridine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

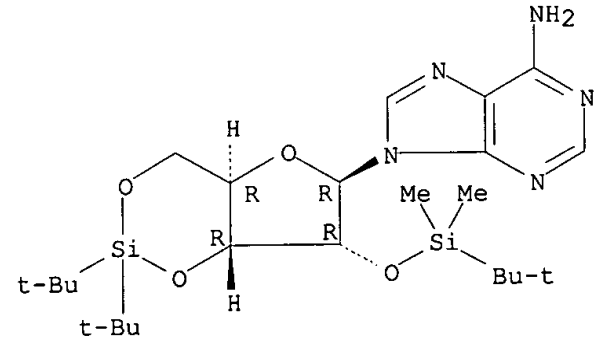
Absolute stereochemistry.



RN 212375-93-4 USPATFULL

CN Adenosine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

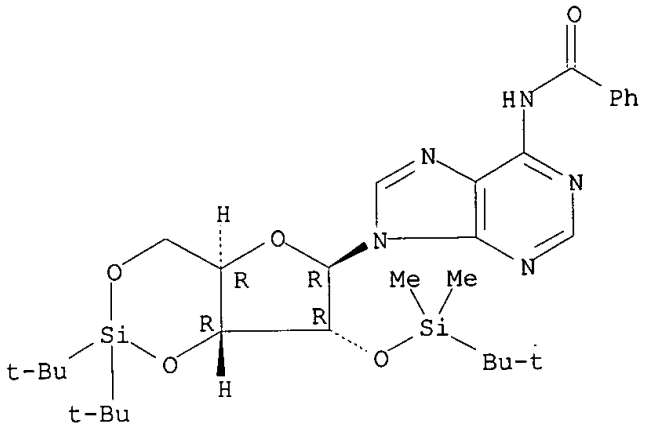
Absolute stereochemistry.



RN 401812-98-4 USPATFULL

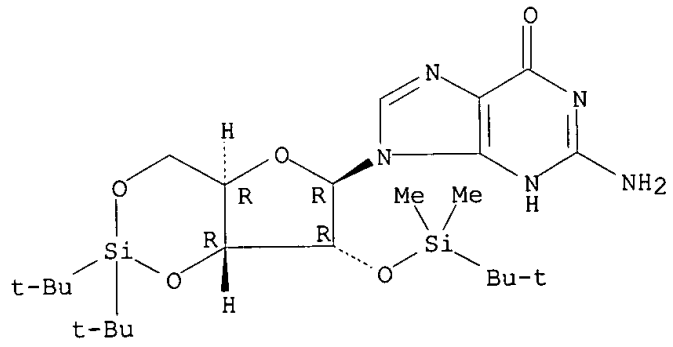
CN Adenosine, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



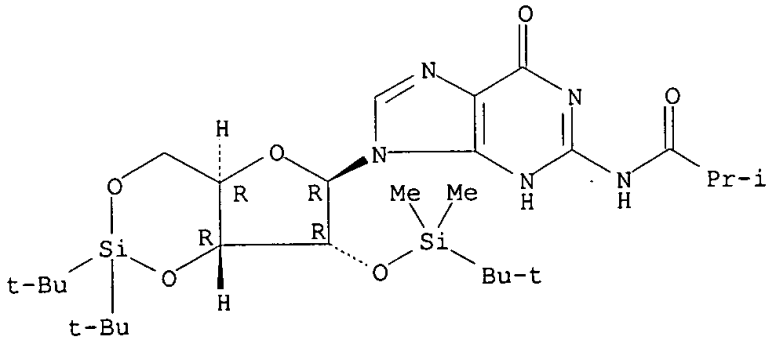
RN 401812-99-5 USPATFULL
CN Guanosine, 3',5'-O-[bis(1,1-methylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 401813-00-1 USPATFULL
CN Guanosine, 3',5'-O-[bis(1,1-methylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

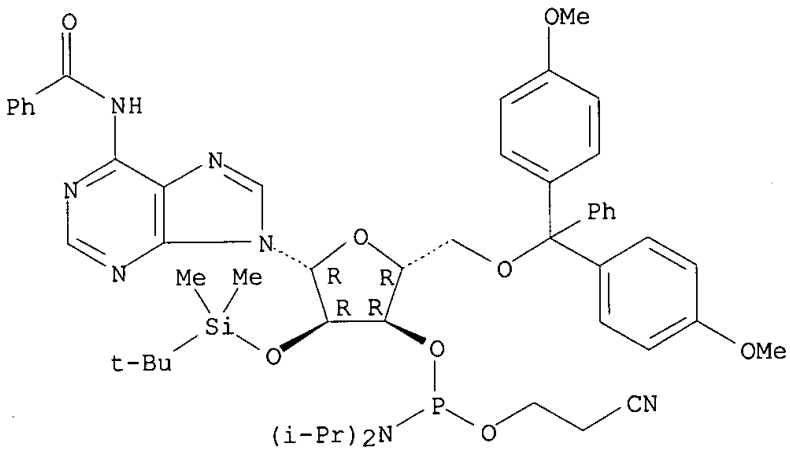


IT **104992-55-4P 118362-03-1P 121058-88-6P**

147201-04-5P
(methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

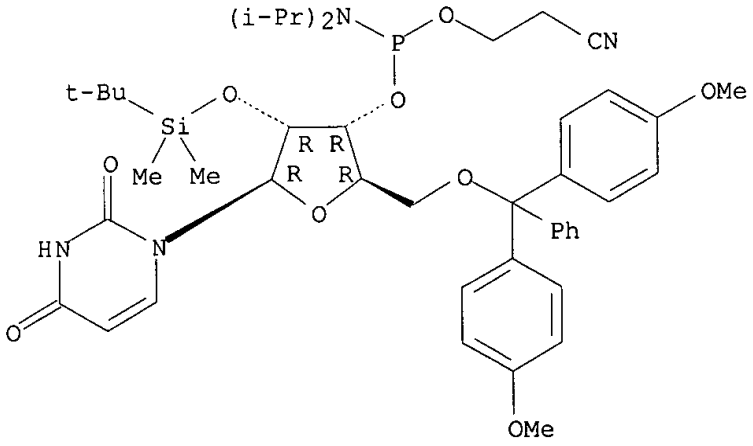
RN 104992-55-4 USPATFULL
CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



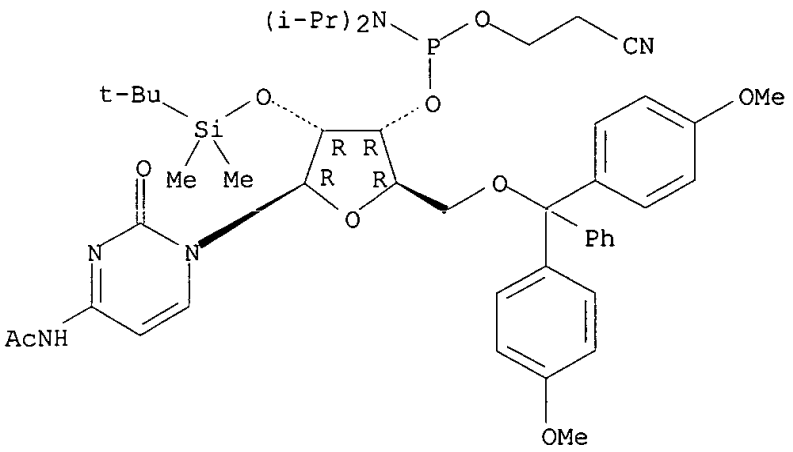
RN 118362-03-1 USPATFULL
CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



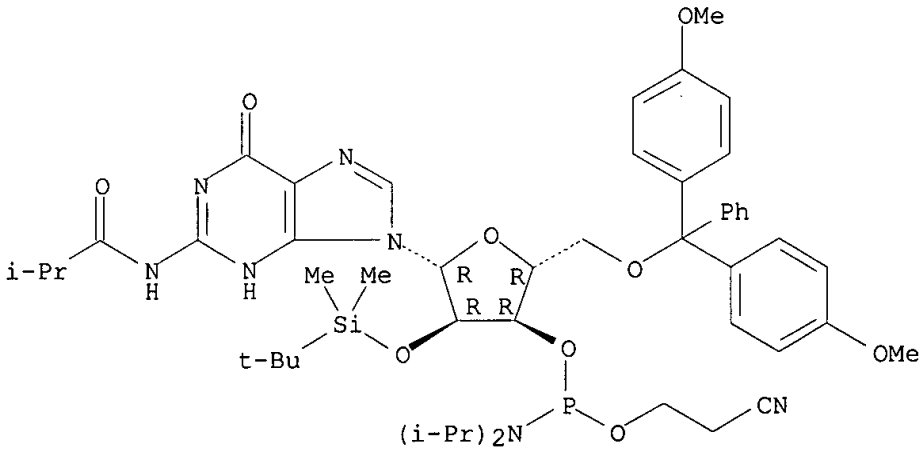
RN 121058-88-6 USPATFULL
CN Cytidine, N-acetyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 147201-04-5 USPATFULL
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L7 ANSWER 8 OF 8 USPATFULL on STN

ACCESSION NUMBER:	2002:221984 USPATFULL		
TITLE:	Methods for synthesizing nucleosides, nucleoside derivatives and non-nucleoside derivatives		
INVENTOR(S):	Beigelman, Leonid, Longmont, CO, UNITED STATES Karpeisky, Alexander, Lafayette, CO, UNITED STATES Serebryany, Vladmir, Boulder, CO, UNITED STATES Haeberli, Peter, Berthoud, CO, UNITED STATES Sweedler, David, Louisville, CO, UNITED STATES		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002120129	A1	20020829
APPLICATION INFO.:	US 2001-944554	A1	20010831 (9)
	NUMBER		DATE
PRIORITY INFORMATION:	US 2000-230057P		20000901 (60)
	US 2001-286571P		20010425 (60)
DOCUMENT TYPE:	Utility		

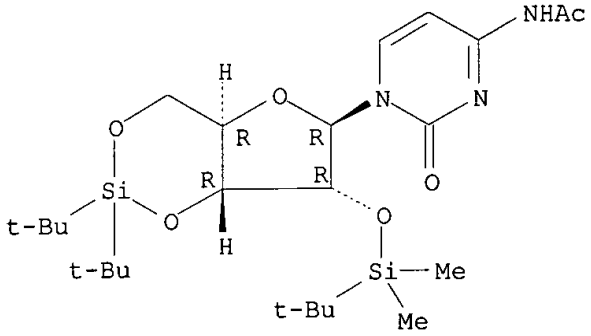
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE 3200, CHICAGO, IL, 60606
NUMBER OF CLAIMS: 75
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 15 Drawing Page(s)
LINE COUNT: 3846
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides methods for the chemical synthesis of nucleosides and derivatives thereof, including 2'-amino, 2'-N-phthaloyl, 2'-O-methyl, 2'-O-silyl, 2'OH nucleosides, C-nucleosides, nucleoside phosphoramidites, C-nucleoside phosphoramidites, and non-nucleoside derivatives.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

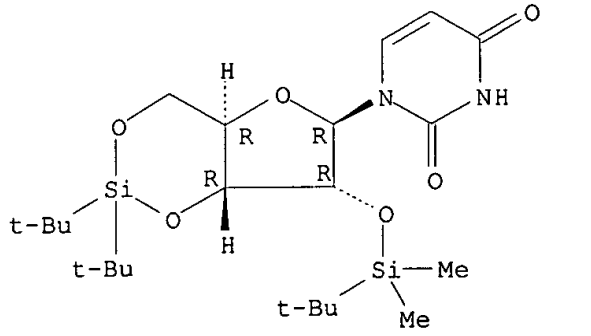
IT **401812-96-2P**
(507; methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)
RN 401812-96-2 USPATFULL
CN Cytidine, N-acetyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **212375-92-3P 212375-93-4P 401812-98-4P**
401812-99-5P 401813-00-1P
(methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)
RN 212375-92-3 USPATFULL
CN Uridine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

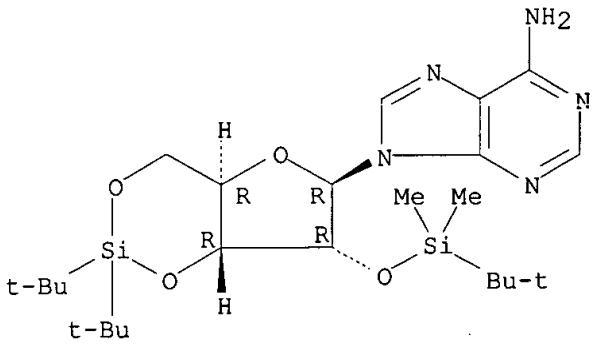
Absolute stereochemistry.



RN 212375-93-4 USPATFULL
CN Adenosine, 3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-

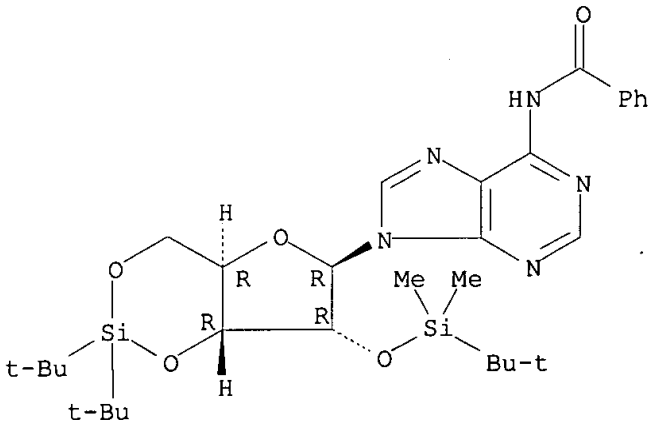
dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



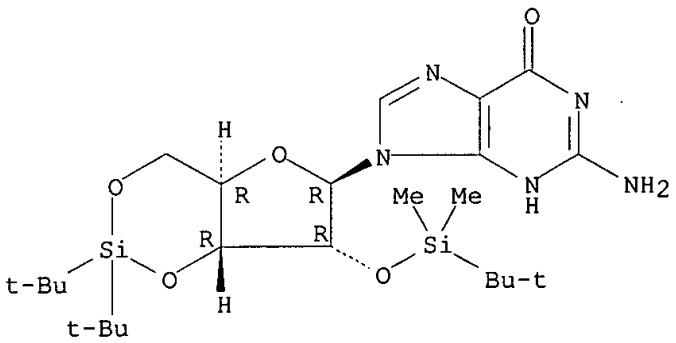
RN 401812-98-4 USPATFULL
CN Adenosine, N-benzoyl-3',5'-O-[bis(1,1-dimethylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 401812-99-5 USPATFULL
CN Guanosine, 3',5'-O-[bis(1,1-methylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

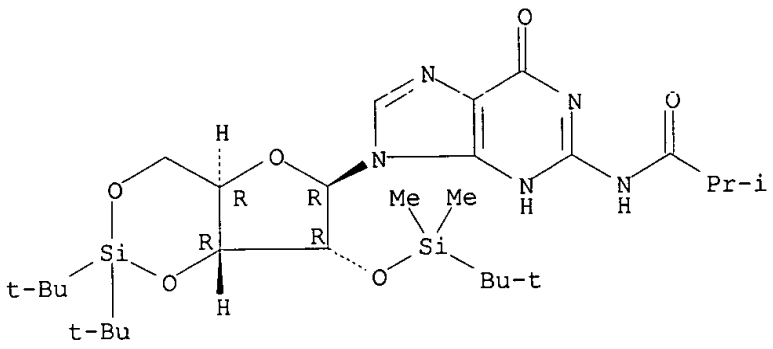
Absolute stereochemistry.



RN 401813-00-1 USPATFULL
CN Guanosine, 3',5'-O-[bis(1,1-methylethyl)silylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX

NAME)

Absolute stereochemistry.

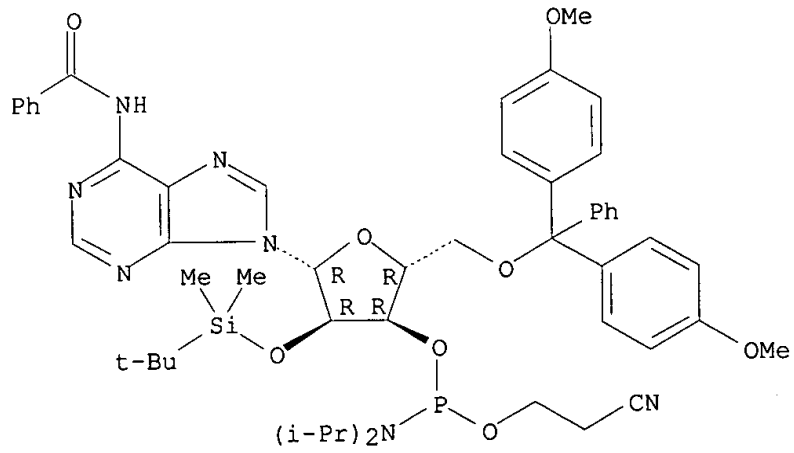


IT **104992-55-4P 118362-03-1P 121058-88-6P**
147201-04-5P
(methods for synthesizing nucleosides nucleoside derivs. and non-nucleoside phosphoramidites and succinates)

RN 104992-55-4 USPATFULL

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

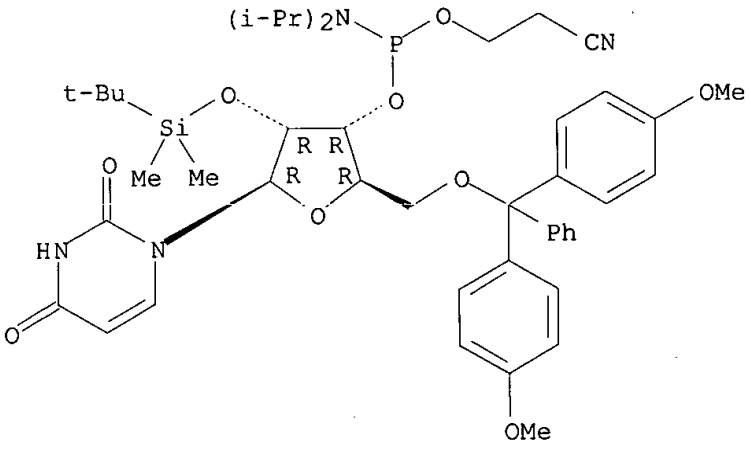
Absolute stereochemistry.



RN 118362-03-1 USPATFULL

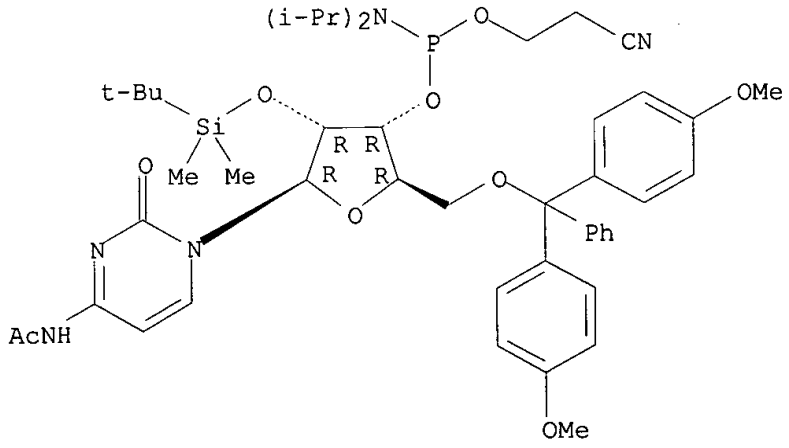
CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



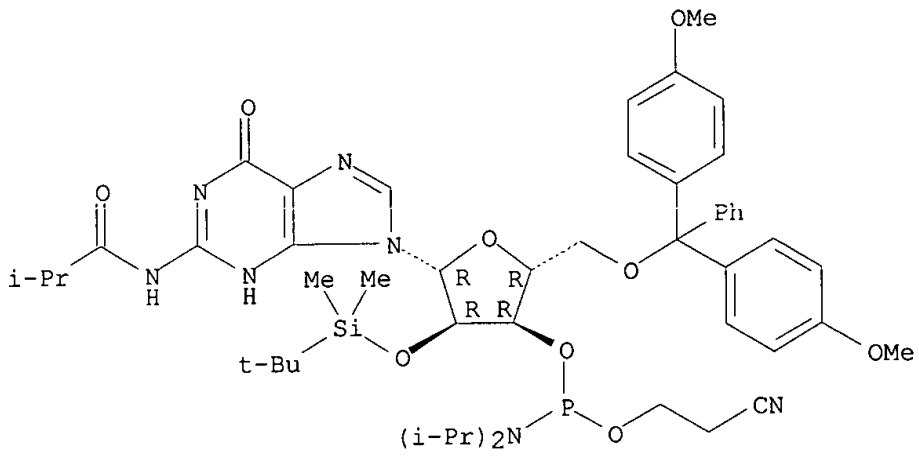
RN 121058-88-6 USPATFULL
CN Cytidine, N-acetyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 147201-04-5 USPATFULL
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

Absolute stereochemistry.


OMe
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i-Pr
O
N
H
N
H
N
Me
Me
R
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Ph
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Si
t-Bu
O
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OMe
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CN
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